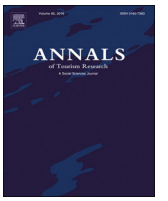
Annals of Tourism Research 84 (2020) 103008

Contents lists available at ScienceDirect

Annals of Tourism Research

journal homepage: www.elsevier.com/locate/annals



Eudaimonic and hedonic well-being pattern changes: Intensity and activity

Lujun Su[a], Binli Tang[a], Jeroen Nawijn[b,*]

[a] Business School of Central South University, 932 Lushan South Street, Changsha, Hunan, China
[b] Breda University of Applied Sciences, Academy for Tourism, Mgr. Hopmansstraat 2, P.O. Box 3917, 4800 DX Breda, the Netherlands

ARTICLE INFO

Associate Editor: Viglia Giampaolo

Keywords:
Well-being
Change patterns
Hedonia
Eudaimonia
Tourism activities

ABSTRACT

How well-being changes over the course of a vacation is unclear. Particular understudied areas include the eudaimonic dimension of well-being, the comparison between eudaimonia and hedonia, and the role of activity type. Using an integrated model, two studies which combined survey and experiment were conducted to examine the change patterns of eudaimonia and hedonia, the difference of change patterns between eudaimonia and hedonia, and the moderating role of activity type. Hedonia and eudaimonia both significantly changed via a 'first rise then fall' change tendency over the course of a vacation. Compared to hedonia, eudaimonia has lower change intensity over the course of a vacation; eudaimonia achieved in a challenging (vs. relaxing) activity is more. Theoretical and managerial implications are discussed.

Introduction

In modern society, people increasingly participate in vacations and hope to enhance their well-being through tourism experiences (Cai et al., 2020; Chen & Petrick, 2013; Chen & Yoon, 2019; Filep & Laing, 2019; Hanna et al., 2019; Pyke et al., 2019; Su & Zhang, 2020; Yu et al., 2020). Based on this phenomenon, a rich stream of research examining the effects of tourism vacation on tourist well-being has been conducted (Uysal et al., 2016). Throughout these studies, the change of tourist well-being over the course of a vacation has been a key concern (Filep & Laing, 2019). As early as 1986, Lounsbury and Hoopes discussed the change of tourist life satisfaction between pre- and post-vacation. Since then different perspectives of tourist well-being have been developed to deeply explore this topic (e.g. Chen et al., 2013; Gilbert & Abdullah, 2004). To date, a set of studies on change of tourist well-being have been conducted (e.g. De Bloom et al., 2011; De Bloom et al., 2010; Hoopes & Lounsbury, 1989; McCabe et al., 2010; Kaosiri et al., 2019; Nawijn, 2010; Nawijn et al., 2010; Pols & Kroon, 2007; Sie et al., 2018; Strauss-Blasche et al., 2000), and interest in this topic is increasing (Filep & Laing, 2019). However, how tourist well-being changes over the course of a vacation is still unclear. Particular understudied areas include the eudaimonic dimension of well-being, the comparison between eudaimonia and hedonia, and the role of activity type (Cai et al., 2020; Smith & Diekmann, 2017), which hinders our deeper understanding of the impact of vacation on tourist well-being (Filep & Laing, 2019).

Previous studies (e.g. Chen et al., 2013; Gilbert & Abdullah, 2004) used different kinds of constructs and scales to measure tourist well-being, for instance, 'subjective well-being' (Gilbert & Abdullah, 2004), 'chronic subjective well-being' and 'occasion- specific subjective well-being' (Chen et al., 2013). However, most of these constructs and scales adopted a hedonic approach to well-being which focuses on the pleasure aspect of well-being (Lengieza et al., 2019; Smith & Diekmann, 2017), while neglecting the eudaimonic

* Corresponding author.
E-mail address: nawijn.j@buas.nl (J. Nawijn).

https://doi.org/10.1016/j.annals.2020.103008
Received 20 March 2020; Received in revised form 24 June 2020; Accepted 17 July 2020

approach to well-being which focuses on the meaning-related aspect of well-being (Cai et al., 2020; Rahmani et al., 2018; Ryan & Deci, 2001; Yu et al., 2020). Actually, well-being consists of two dimensions in theory: hedonia and eudaimonia (Ryan & Deci, 2001). Hedonia relates to immediate sensory pleasure, happiness, and enjoyment, while eudaimonia relates to the consequences of self-growth and self-actualization (Ryan & Deci, 2001; Ryff, 1989). On the other hand, as tourism vacation is more and more seen as a break from everyday routines and increasingly seen as an activity associated with personal meaning and self-growth (Filep & Deery, 2010; Lengieza et al., 2019; Smith & Diekmann, 2017), scholars have gradually realized that tourism brings not only hedonia to tourist, but also eudaimonia in recent years (Cai et al., 2020; Filep & Laing, 2019; Kaosiri et al., 2019; Nawijn & Filep, 2016; Rahmani et al., 2018; Smith & Diekmann, 2017). Thus, measuring tourist well-being from a hedonic approach exclusively does not cover the entire scope of well-being (Filep & Laing, 2019; Nawijn & Filep, 2016; Rahmani et al., 2018), we need more knowledge about the change of tourist well-being from a eudaimonic approach (Cai et al., 2020; Filep & Laing, 2019; Yu et al., 2020). However, to our knowledge, there are no studies that have empirically investigated the change of tourist eudaimonia over the course of a vacation.

In addition, existing literature (e.g. Rahmani et al., 2018; Ryan & Deci, 2001; Smith & Diekmann, 2017) has indicated that eudaimonia and hedonia are both overlapping and distinct. Therefore, the most interesting studies of well-being may be those that illustrate the similarity and difference between eudaimonia and hedonia simultaneously (Ryan & Deci, 2001). In tourism contexts, different kinds of goals may be achieved and different kinds of desires may be fulfilled for tourists over the course of a vacation, some of these goals and desires may be connected to the meaning aspect of well-being and lead to the change of eudaimonia, some of them may be associated with the pleasure aspect of well-being and lead to the change of hedonia (Filep & Laing, 2019; Rahmani et al., 2018; Smith & Diekmann, 2017). However, due to the lack of the eudaimonic dimension in studies of change of tourist well-being, much less is known about the similarity and difference in change patterns of hedonia and eudaimonia (Knobloch et al., 2017; Li & Chan, 2017; Nawijn & Filep, 2016).

Furthermore, there are many types of tourism activities in real-world contexts (Smith & Diekmann, 2017), and any tourism activity that can lead to positive emotions and cognitions can contribute to tourist well-being (Lyubomirsky & Layous, 2013; Ryan & Deci, 2001). Moreover, recent studies indicated that different types of tourism activity may lead to different vacation effects on tourist well-being (Chen et al., 2013; De Bloom et al., 2010; Gilbert & Abdullah, 2004; Nawijn et al., 2010; Rook and Zijlstra, 2006), that is, some activities impact hedonia and eudaimonia more intensely than other activities (Henderson & Knight, 2012). For instance, tourism activities related to being relaxed, excited, away from problems, and happy bring tourists more hedonia, and tourism activities related to challenge, a great deal of effort, and clear goals bring tourists more eudaimonia (Henderson & Knight, 2012; Ryan & Deci, 2001). Nevertheless, there is no study that conducted a clear classification of tourism activity to explore the change patterns of hedonia and eudaimonia in different types of tourism activity. Therefore, scholars call for more studies to explore the change of tourist well-being in different types of tourism activity (Hanna et al., 2019; Su & Zhang, 2020; Chen et al., 2013; De Bloom et al., 2010; Gilbert & Abdullah, 2004; Nawijn et al., 2010).

To address the gaps mentioned above, our study examined the question of how tourist well-being (hedonia and eudaimonia) changes over the course of a vacation, and it resulted in a five-stage integrated theoretical model on this issue, focusing specifically on the moderating effects of tourism activity type (challenging vs. relaxing).

Taken collectively, based on well-being theory, self-determination theory, and set-point theory, the contributions of this paper could be summarized as follows. First, we incorporated eudaimonia into the framework of tourist well-being and explored the vacation effect, change tendency, and change intensity of it, which enriches the knowledge of eudaimonia change patterns over the course of a vacation. Secondly, we adopted a comparative perspective to explore the similarity and difference of change patterns between hedonia and eudaimonia to obtain a deeper understanding of the relationships between hedonia and eudaimonia. Furthermore, we introduced the type of tourism activity (challenging and relaxing) as a moderator to examine the boundary condition of change of tourist well-being, which would help us better comprehend the role of activity type on the change of tourist well-being over the course of a vacation.

In the following sections, this paper will review the relevant literature first to clarify a conceptual model and develop hypotheses.

Literature review and hypotheses development

Tourist well-being and its dimensions

Well-being is a classical concept from ancient Greek times, it is theoretically considered to contain two dimensions: hedonia and eudaimonia (Ryan & Deci, 2001), these two dimensions are both overlapping and distinct (Rahmani et al., 2018; Ryan & Deci, 2001). The thought of hedonia derives from Aristippus who suggested that people should seek pleasure and avoid pain as much as possible (Smith & Diekmann, 2017). In this way, hedonia is defined as the pleasure aspect of well-being in terms of pleasure attainment and pain avoidance, hedonia represents a state in which a person has more pleasure, fun, enjoyment, positive emotions, and fewer negative emotions (Rahmani et al., 2018; Ryan & Deci, 2001). The thought of eudaimonia derives from Aristotle who considered realizing human potential and growth to be the ultimate pursuit of life. Consequently, eudaimonia is defined as the meaning-related aspect of well-being in terms of the degree to which a person is fully functioning and flourishing (Ryan & Deci, 2001; Smith & Diekmann, 2017). Eudaimonia represents a state in which a person has more autonomy, mastery over their external environment, personal growth, positive relationships with others, purpose in life and self-acceptance (Ryff, 2014). In tourism contexts, tourist well-being is usually linked to relaxation, pleasure and positive emotions in a hedonic approach (Lengieza et al., 2019; Rahmani et al., 2018), for instance, experiencing a comfortable environment, fascinating scenery or tasty food at tourist destinations. In a eudaimonic approach, on the other hand, tourist well-being is usually linked to meaning outcomes and mental health (Pols & Kroon,

2007; Rahmani et al., 2018; Smith & Diekmann, 2017), such as making an ideal travel route personally, overcoming a tourism activity challenge, finding a like-minded friend during vacation.

Generally, people participate in tourism vacations for relaxation, more pleasure, or relieving life's pressures (Smith & Diekmann, 2017). This seems to fit our understanding of hedonia, in that participation in tourism vacation has long been thought to be associated with hedonia and academic studies of tourist well-being also mainly focus on the hedonic approach (Lengieza et al., 2019; Rahmani et al., 2018; Smith & Diekmann, 2017), using theoretical frameworks related to hedonia such as 'subjective well-being' theory (Sirgy, 2019). However, with the development of the tourism industry, tourism vacation is more and more seen as a break from everyday routines and increasingly seen as an activity associated with personal meaning and self- growth (Filep & Deery, 2010; Lengieza et al., 2019). In this way, scholars gradually realize that tourism brings not only hedonia to tourist, but also eudaimonia (Cai et al., 2020; Filep & Laing, 2019; Kaosiri et al., 2019; Nawijn & Filep, 2016; Rahmani et al., 2018; Smith & Diekmann, 2017) and researchers are increasingly arguing that more attention should be paid to tourist eudaimonia in the research of tourist well-being (Filep & Laing, 2019; Lengieza et al., 2019; Li & Chan, 2017; Nawijn & Filep, 2016; Rahmani et al., 2018) and that theories considering eudaimonic factors, such as self-determination theory (Ryan & Deci, 2000) and psychological well-being theory (Ryff & Singer, 1998) should be adopted in tourism (Sirgy, 2019).

Effect of vacation on tourist well-being

It is acknowledged that engaging in a vacation impacts tourist well-being (London et al., 1997; Lounsbury & Hoopes, 1986; Milman, 1998), that is, tourism–based experiences impact the quality of life of tourists (Su et al., 2016) and enhances their well-being (Filep, 2014). More specifically, existing studies illustrated the effects of vacation on tourist well-being in different stages of a vacation (e.g. Chen et al., 2013; De Bloom et al., 2010; De Bloom et al., 2011; Gilbert & Abdullah, 2004; Nawijn et al., 2010). However, previous studies (e.g. Chen et al., 2013; Gilbert & Abdullah, 2004) focused on this topic just through the theory about hedonia, such as 'subjective well-being theory', so they could only find changes in tourist well-being in a hedonic way. Using well-being theory which argues that there are two dimension of well-being: hedonia and eudaimonia (Lengieza et al., 2019; Rahmani et al., 2018) in the tourism context, and focusing on the self-determination theory which 'posits that satisfaction of the basic psychological needs typically fosters subjective well-being as well as eudaimonic well-being' (Ryan & Deci, 2001, p. 147), this paper argues that tourism vacation affects tourist well-being through two dimensions: tourist hedonia and tourist eudaimonia.

Actually, through the lenses of self-determination theory, vacations could be viewed as a phenomenon that can bring satisfaction in people's lives and lead to relatively more positive affect as well as psychological well-being (Filep & Laing, 2019; Smith & Diekmann, 2017). More specifically, at the stage of pre-trip, the planning and anticipating of the vacation is likely to enhance tourist well-being significantly (Uysal et al., 2016), as the process of planning and anticipating generates positive affect and meets the innate needs of autonomy, competence, and relatedness which furthermore affect hedonia and eudaimonia positively according to self-determination theory (Ryan & Deci, 2000). At the stage of during-trip, tourists engage in certain kinds of tourism activities that can bring them diverse pleasure experiences which can enhance tourist hedonia (Fennel, 2009; Filep & Laing, 2019); at the same time, tourists may obtain a sense of growth, purpose, self-actualization and even flow at the stage of during-trip (Sirgy, 2019; Wu & Liang, 2011), boosting the eudaimonia of tourists. At the stage of post-trip, the memory of tourism experience at during-trip does not fade out immediately and the positive affect could persist over an extended period of time (Gilbert & Abdullah, 2004), so the hedonia sustains a higher level over this extended period of time. Furthermore, the process of reflecting comes into play when tourists come back, which could keep the eudaimonia in a higher level for an extended period of time (Lengieza et al., 2019).

However, according to set-point theory, tourists gradually turn back to their daily lives and the effect of vacation on their well-being fades out up to the point where their well-being returns to its baseline situation as time goes by (Chen et al., 2013; De Bloom et al., 2011; Gilbert & Abdullah, 2004; Nawijn et al., 2010). Arguing along this line, the hedonia and eudaimonia of tourists is likely to return to its baseline situation at some moment in time after vacation. Interestingly, the question of tourist well-being returning to its baseline level after a vacation is still under dispute. Some studies found that tourist well-being returns to its baseline situation quickly in the week after the vacation (e.g. De Bloom et al., 2011; Nawijn et al., 2010), but other studies concluded that this time period could be two months or longer (e.g. Chen et al., 2013; Gilbert & Abdullah, 2004). Taking a compromise approach, we investigated the well-being level of post-trip at three stages (i.e. one day, one week, and one month after the vacation), based on the assumption that tourist well-being returns to its baseline level after one month.

As mentioned above, there is support for our proposition of hypothesis 1:

H1. Over the course of a vacation, eudaimonia as well as hedonia increases from baseline situation at pre-trip, during-trip, post$_1$-trip and post$_2$-trip, but returns to baseline situation at post$_3$-trip.

Change tendency of tourist well-being over the course of a vacation

No single study to date has singlehandedly assessed the change tendency of tourist well-being over the course of a vacation and its adjacent time periods. Existing studies pointed out that the tourist experience reaches its peak level during a vacation (Bastiaansen et al., 2019; Mitas et al., 2012). Through the lenses of self-determination theory, the peak experience means that there are more factors that have a positive influence on tourists' innate needs of autonomy, competence, and relatedness during-trip rather than pre-trip or post-trip, and moreover, the intensity of these factors is stronger during-trip rather than pre-trip or post-trip (Filep & Laing, 2019; Smith & Diekmann, 2017). On the other hand, the theory of set-point suggests a rise tendency of well-being from pre-trip to

during-trip following the course that tourists leave home and go to tourism destination, and a fall tendency of well-being from during-trip to post-trip following the course that tourists return home and gradually return their daily routines (Chen et al., 2013; De Bloom et al., 2010; Gilbert & Abdullah, 2004; Nawijn et al., 2010). As such, hedonia and eudaimonia levels would reach their highest situations in the peak experience at the stage of during-trip (Filep & Laing, 2019; Gao et al., 2018). In this way, tourist well-being will proceed to rise from pre-trip toward during-trip and will go through a drop-down process from during-trip toward post-trip (De Bloom et al., 2010; De Bloom et al., 2011). In particular, the drop-down process from during-trip toward post-trip does not happen suddenly, it is a gradual process as examined by Gilbert & Abdullah (2004) and Chen et al. (2013).

As such, hypothesis 2 - the change tendency of tourist well-being rising from pre-trip to during-trip and falling from during-trip to post-trip - is supported.

H2. Over the course of a vacation, eudaimonia as well as hedonia increases from pre-trip to during-trip, but decreases from during-trip to post-trip.

Differences in change intensity between hedonia and eudaimonia

According to well-being theory, hedonia and eudaimonia are both overlapping and distinct (Ryan & Deci, 2001). Hedonia and eudaimonia originate both from the same pursuit of human beings called the 'good life' (Ryan & Deci, 2001), but they have been regarded as different in essence ever since ancient Greek times (Smith & Diekmann, 2017). Based on the original difference, the way people perceive hedonia and eudaimonia is distinct (Lengieza et al., 2019). Hedonia is usually connected with emotion (Kammann & Flett, 1983), while emotion originates from the continual appraisal of life circumstances in terms of emotion theory (Lazarus, 1982), so the judgement of hedonia is an immediate reaction following emotion fluctuations (Diener, 1994). Eudaimonia, on the other hand, is usually connected with meaning (Ryan & Deci, 2001; Smith & Diekmann, 2017), while the generation of meaning is a process of thinking and self-reflection (Filep & Laing, 2019; Lengieza et al., 2019). Consequently, the judgement of eudaimonia is a delayed reaction unlike the judgement of hedonia, that is, compared to hedonia the change of eudaimonia has a delayed effect (Smith & Diekmann, 2017). In this paper we propose the variable of change intensity of hedonia and eudaimonia over the course of a vacation to illustrate the delayed effect of eudaimonia. More specifically, between two certain stages (e.g. pre-trip and during-trip), considering the delayed effect of eudaimonia compared to hedonia, the change intensity of eudaimonia is lower.

Based on the analysis discussed above, an inference is proposed which considers the change intensity of eudaimonia to be lower than that of eudaimonia over the same period.

H3. Over the course of a vacation, the change intensity of eudaimonia is significantly lower than the change intensity of hedonia.

The moderating role of tourism activity type on tourist well-being

Tourism activity is considered to be associated with well-being (Mitas et al., 2016; Smith & Diekmann, 2017), and different activity types may influence tourist well-being differently (Lengieza et al., 2019; Smith & Diekmann, 2017). After all, different types of activity can fulfil different motivations and needs in tourism (Beckman et al., 2017; Sirgy, 2019) and can lead to different experiences (Holm et al., 2017) as well as different intensities of emotional reaction (Beckman et al., 2017; Su et al., 2020). Compared to other tourism variables which may impact tourist well-being - such as travel distance, length of stay, and tourist season - tourism activity type has been deemed the most important key factor influencing tourist well-being over the course of a vacation (De Bloom et al., 2011; Gilbert & Abdullah, 2004; Nawijn et al., 2010), as Smith & Diekmann (2017) argued that 'the chosen activities undertaken during the holiday influence the well-being of tourists to a large extent' (p. 8). Moreover, different tourism activity types would influence the two dimensions of well-being differently (Henderson & Knight, 2012; Nawijn et al., 2010; Rook & Zijlstra, 2006; Sonnentag, 2001; Smith & Diekmann, 2017), that is, the two dimensions of well-being each have their own activity preferences (Ryan & Deci, 2001; Smith & Diekmann, 2017). More specifically, eudaimonia is generally connected with activities of challenge which require exertion and effort, whereas hedonia is related more to activities of relaxing which involve low efforts (Rahmani et al., 2018; Ryan & Deci, 2001; Smith & Diekmann, 2017). In this paper, according to the work of Mehmetoglu (2007), Rook & Zijlstra (2006), and Su et al. (2020), we divided tourism activity into two types (relaxing vs. challenging): Relaxing tourism activity is characterized by low effort, low challenge, and low risk, such as sunbathing or sightseeing, whereas challenging tourism activity means relatively high effort, high challenge, and high risk, such as skydiving or whitewater rafting.

According to the above-mentioned activity preference effect of hedonia and eudaimonia, the current study proposes that the effect of vacation on tourist well-being is moderated by the type of tourism activity. The hypotheses are as follows:

H4. Over the course of a vacation, the vacation effect is significantly moderated by the type of tourism activity.

H4a. Compared to its baseline level, eudaimonia achieved at pre-trip, during-trip, $post_1$-trip and $post_2$-trip in the challenging tourism activity (vs. relaxing) is significantly higher.

H4b. Compared to its baseline level, hedonia achieved at pre-trip, during-trip, $post_1$-trip and $post_2$-trip in the relaxing tourism activity (vs. challenging) is significantly higher.

Combining the above-mentioned concepts and hypotheses generated an integrated theoretical model (see Fig. 1) and two studies were conducted to test all hypotheses.

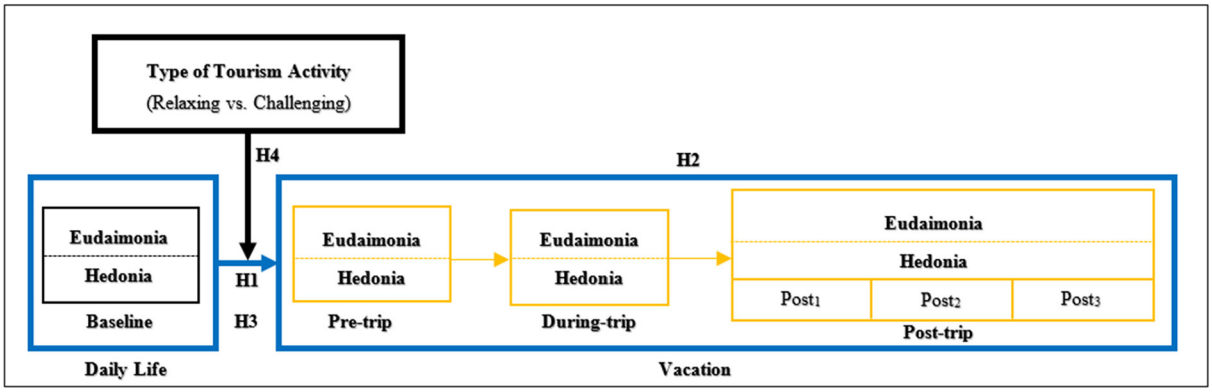


Fig. 1. The theoretical model.

Study 1: change patterns of tourist well-being over the course of a vacation

Research design and procedure

Study 1 included one general survey and five scenario-based experiments that examined hypotheses H1, H2, and H3. In this study, participants reported their eudaimonia and hedonia as the baseline situation in the first survey, we also collected their demographic information at this time. Next, according to the stimuli, participants reported their hedonia and eudaimonia in every scenario-based experiment. Additionally, to test authenticity of scenarios and make sure that the participants' hedonia and eudaimonia was as free as possible from other factors, we added 2 two-point (Yes/No) items in the last experiment.

To find and approach participants, we first released the information of recruiting participants through social media (e.g. WeChat, Weibo, and QQ) on 1 July. The information indicated that we were carrying out a scientific research project, which included a survey and five scenario-based experiments. The survey and experiments were carried out through the internet but at different times, about 5 to 10 min each time. After each completion, the participants could obtain a red packet of 2 yuan. Secondly, after we found people willing to join the research project, we added their WeChat from which we were able to connect with them in the subsequent survey and experiments, and also we paid for the red packet through WeChat. Thirdly, through WeChat we distributed the survey questionnaire and experiment stimulus at six specific times and collected data every time.

In the general survey and the five experiments, we used the same scales of eudaimonia and hedonia. More specifically, hedonia was measured with five 7-point items (1 = Strongly disagree, 7 = Completely agree) from Lengieza et al. (2019), Diener et al. (1985), and Su et al. (2016); eudaimonia was measured with six 7-point items (1 = Strongly disagree, 7 = Completely agree) from Lengieza et al. (2019), Ryff & Keyes (1995), and Gao et al. (2018). Regarding to the added items in the last experiment, the first one is 'do you think the scenario described in these five materials could happen in real life' from Liao (2007), and the other one is: 'have you experienced anything significant (falling in love, lovelorn, marriage, divorce, promotion, unemployment, death of a relative, birth of a child, etc.) during this time (from 24 July to 31 August 2019)' adapted from Gilbert & Abdullah (2004). These scales were subjected to a back-translation process.

Sixty participants engaged in study 1, after providing details of the procedure to every participant, we conducted the survey and five experiments on 24, 25, 28, 31 July and 6, 31 August in 2019. The key words of stimuli and the label of measure results are shown in Table 1 (more details on stimuli are available upon request).

After all parts of the study, we finally achieved 48 (8 participants did not complete all 6 measurements and 4 participants reported they experienced a significant event) integrated data sets with a response rate of 80%. Demographic information of these 48 participants are displayed in Table 2.

Table 1
Procedure of Study 1.

Stage	Key words of stimuli	Label of results
Baseline	No stimulus material was used	H_{1st}, E_{1st}
Pre-trip	I will leave for attraction X tomorrow for my five-day vacation	H_{2nd}, E_{2nd}
During-trip	I have been in tourist attraction X for two days	H_{3rd}, E_{3rd}
$Post_1$-trip	I have ended my vacation and came back home last night	H_{4th}, E_{4th}
$Post_2$-trip	It's been a week since I returned from attraction X	H_{5th}, E_{5th}
$Post_3$-trip	It's been a month since I returned from attraction X	H_{6th}, E_{6th}

Table 2
Sample characteristics.

	n	100%
Age in years		
18–25	13	21.3
26–45	42	68.9
46–65	6	9.8
65 or older	0	0
Occupation		
Worker	2	4.2
Farmer	2	4.2
Public servant	5	10.4
Self-employed	4	8.3
Teacher	4	8.3
Professional	7	14.6
Enterprise manager	12	25.0
Student	9	18.8
Others	3	6.3
Monthly income		
Lower than 2000¥	6	12.5
2001–2999¥	6	12.5
3001–4999¥	17	35.4
5000–7999¥	16	33.3
8000¥ or higher	3	6.3
Level of education		
Less than High School	1	2.1
High School/Technical School	4	8.3
Undergraduate/Associate Degree	24	50
Master	17	35.4
Doctor or more	2	4.2
Gender		
Male	26	54.2
Female	22	45.8

Scenario authenticity and measurement reliability

The scenario authenticity test showed that more than 85% (85.4%) of the participants believed that the scenarios were real for them and they could easily imagine the scenarios to exist in real life. We examined the reliability of the hedonia and eudaimonia scales respectively, each of the hedonia and eudaimonia scales express high reliability (Cronbach's α is more than 0.850) every time, the details of Scale Items and measurement reliability of study 1 are shown in Table 3.

Table 3
Scale items and measurement reliability.

	Baseline	Pre-trip	During-trip	$Post_2$-trip	$Post_2$-trip	$Post_3$-trip
Hedonia	0.913	0.898	0.919	0.917	0.920	0.936
In general, I consider myself very happy						
Compared to most of my peers, I consider myself more happy						
I am generally very happy and enjoy life						
In most ways my life is close to my ideal						
I'm satisfied with my life						
Eudaimonia	0.883	0.886	0.913	0.900	0.885	0.912
I can resist social pressures to think and keep my opinions						
I feel I am in charge of the situation in which I live						
I have a feeling of continued development, I think I'm growing						
I like most aspects of my personality						
I have warm, satisfying, and trusting relationships with others						
I have a sense of purpose in my life						

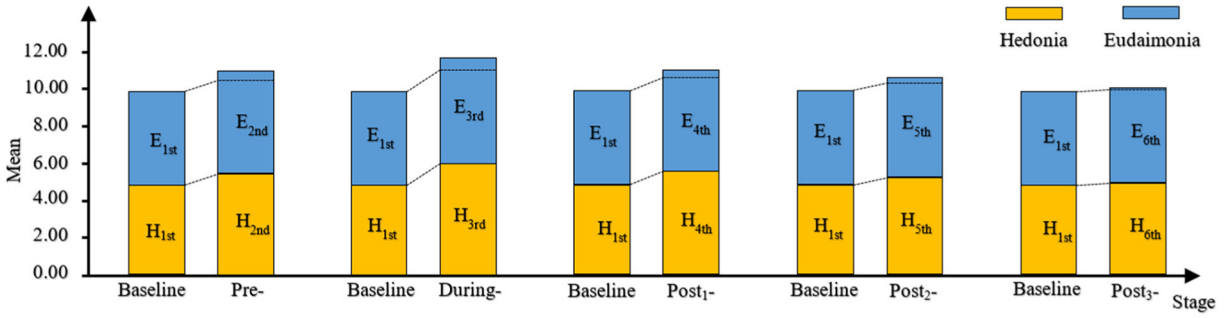


Fig. 2. The effects of vacation on tourist well-being.

Data analysis and results

Paired-samples t-tests were used to test hypotheses H1, H2, and H3. To test hypothesis H1, we compared hedonia at pre-trip, during-trip, $post_1$-trip, $post_2$-trip, and $post_3$-trip with its baseline situation, and the same comparison was made to eudaimonia. To test hypothesis H2, we compared hedonia between during-trip and pre-trip, $post_1$-trip and during-trip, $post_2$-trip and $post_1$-trip, $post_3$-trip and $post_2$-trip, and the same comparison was made to eudaimonia. To test hypothesis H3, we compared the change intensity of hedonia and eudaimonia at different stages.

The effects of vacation on tourist well-being

The results revealed significant effects of vacation on tourist hedonia and eudaimonia at the stages of pre-, during-, $post_1$- and $post_2$-, except $post_3$-trip (Fig. 2). Particularly, hedonia at pre-trip (H_{2nd} = 5.44 ± 0.79), during-trip (H_{3rd} = 5.96 ± 0.78), $post_1$-trip (H_{4th} = 5.51 ± 0.76) and $post_2$-trip (H_{5th} = 5.18 ± 0.76) was significantly higher than at its baseline level (H_{1st} = 4.77 ± 0.95) ($t_{H1st\ \&\ H2nd} = -6.44$, $p < 0.01$; $t_{H1st\ \&\ H3rd} = -8.75$, $p < 0.01$;, $t_{H1st\ \&\ H4th} = -7.00$, $p < 0.01$; $t_{H1st\ \&\ H5th} = -3.46$, $p < 0.01$), and there was a non-significant difference between $post_3$-trip (H_{6th} = 4.91 ± 0.78) and baseline level ($t_{H1st\ \&\ H6th} = -1.64$, $p > 0.05$). Meanwhile, eudaimonia at pre-trip (E_{2nd} = 5.46 ± 0.75), during-trip (E_{3rd} = 5.65 ± 0.76), $post_1$-trip (E_{4th} = 5.40 ± 0.71) and $post_2$-trip (E_{5th} = 5.27 ± 0.70) was significantly higher than at its baseline level (E_{1st} = 5.02 ± 0.82) ($t_{E1st\ \&\ E2nd} = -4.61$, $p < 0.01$; $t_{E1st\ \&\ E3rd} = -6.21$, $p < 0.01$; $t_{E1st\ \&\ E4th} = -3.71$, $p < 0.01$; $t_{E1st\ \&\ E5th} = -2.46$, $p < 0.05$), but there was a non-significant difference at $post_3$-trip (E_{6th} = 5.13 ± 0.73, $t_{E1st\ \&\ E6th} = -1.20$, $p > 0.05$). These results demonstrated that not only tourist hedonia increases from baseline situation at pre-trip, during-trip, $post_1$-trip and $post_2$-trip, and returns to baseline situation at $post_3$-trip, but also tourist eudaimonia increases from baseline situation at pre-trip, during-trip, $post_1$-trip and $post_2$-trip, and returns to baseline situation at $post_3$-trip. It indicates that the effects of vacation on hedonia and eudaimonia at different vacation stages are similar.

Change tendency of tourist well-being over the course of a vacation

A significantly rising trend of both hedonia and eudaimonia from pre-trip to during-trip was confirmed, as was the significant downtrend from during-trip to post-trip (see Fig. 3). More specifically, hedonia and eudaimonia of during-trip (H_{3rd} = 5.96 ± 0.78; E_{3rd} = 5.65 ± 0.76) were significantly higher than their levels at pre-trip (H_{2nd} = 5.44 ± 0.79; E_{2nd} = 5.46 ± 0.75) ($t_{H3rd\ \&\ H2nd} = -6.14$, $p < 0.01$; $t_{E3rd\ \&\ E2nd} = -2.53$, $p < 0.05$); hedonia and eudaimonia at $post_1$-trip (H_{4th} = 5.51 ± 0.76, E_{4th} = 5.40 ± 0.71) were significantly lower than their levels of during-trip ($t_{H4th\ \&\ H3rd} = 6.16$, $p < 0.01$; $t_{E4th\ \&\ E3rd} = 3.24$, $p < 0.01$); hedonia and eudaimonia at $post_2$-trip (H_{5th} = 5.18 ± 0.76; E_{5th} = 5.27 ± 0.70) were significantly lower than their levels of $post_1$-trip ($t_{H5th\ \&\ H4th} = 4.62$, $p < 0.01$; $t_{E5th\ \&\ E4th} = 2.90$, $p < 0.01$); and hedonia and eudaimonia at $post_3$-trip

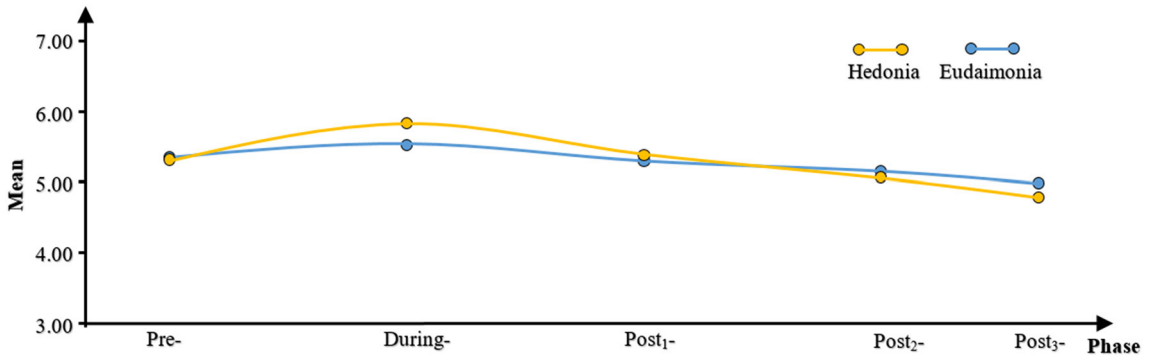


Fig. 3. Change tendency of tourist well-being.

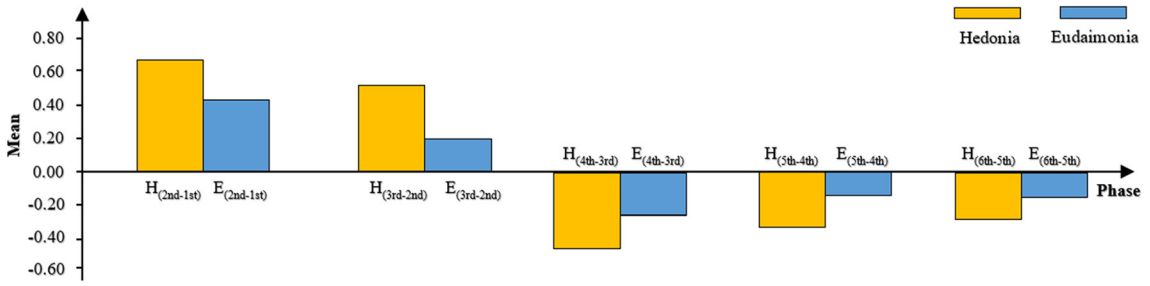


Fig. 4. Differences in change intensity between hedonia and eudaimonia.

(H_{6th} = 4.91 ± 0.78; E_{6th} = 5.13 ± 0.73) were significantly lower than their levels at post$_2$-trip ($t_{H6th\ \&\ H5th}$ = 3.95, $p < 0.01$; $t_{E6th\ \&\ E5th}$ = 2.82, $p < 0.01$). Therefore, the hypotheses of H2 were confirmed, that is, not only tourist hedonia increases from pre-trip to during-trip, and decreases from during-trip to post-trip, but the same applies to tourist eudaimonia. It indicates that the change tendency from pre-trip toward post-trip of hedonia and eudaimonia are similar.

Differences in change intensity between hedonia and eudaimonia

The value of H_{2nd} minus H_{1st} was used as the change intensity of hedonia from its baseline toward pre-trip, and expressed as $H_{(2nd\text{-}1st)}$. In a similar fashion, $H_{(3rd\text{-}2nd)}$, $H_{(4th\text{-}3rd)}$, $H_{(5th–4th)}$, $H_{(6th–5th)}$, $E_{(2nd\text{-}1st)}$, $E_{(3rd\text{-}2nd)}$, $E_{(4th\text{-}3rd)}$, $E_{(5th–4th)}$ and $E_{(6th–5th)}$ were calculated. The results presented a significant difference in change intensity between hedonia and eudaimonia at different stages (Fig. 4). More specifically, either the rise intensity or the fall intensity of eudaimonia were significantly lower than those of hedonia over the course of a vacation ($H_{(2nd\text{-}1st)}$ = 0.68 ± 0.73, $E_{(2nd\text{-}1st)}$ = 0.43 ± 0.65, t = 2.76, $p < 0.01$; $H_{(3rd\text{-}2nd)}$ = 0.52 ± 0.59, $E_{(3rd\text{-}2nd)}$ = 0.19 ± 0.53, t = 3.22, $p < 0.01$; $H_{(4th\text{-}3rd)}$ = −0.45 ± 0.51, $E_{(4th\text{-}3rd)}$ = −0.25 ± 0.53, t = 2.20, $p < 0.05$; $H_{(5th–4th)}$ = −0.33 ± 0.49, $E_{(5th–4th)}$ = −0.14 ± 0.33, t = 2.77, $p < 0.01$; $H_{(6th–5th)}$ = −0.28 ± 0.48, $E_{(6th–5th)}$ = −0.14 ± 0.35, t = 2.25, $p < 0.05$). Therefore, hypothesis H3 was supported. Furthermore, compared with the result of H2, we were able to find that although tourist eudaimonia has a similar change tendency as tourist hedonia, the change intensity of tourist eudaimonia at every stage is significantly lower than that of hedonia. This demonstrated the difference in change patterns between eudaimonia and hedonia.

Study 2: the moderating role of tourism activity types and replication of the results of study 1

Pretest

Stimuli

We designed two versions of the tourism activity description (challenging vs. relaxing) as the stimuli materials (complete descriptions are available upon request). A total of 52 respondents (51.9% male) were conveniently sampled from a Chinese university and randomly divided across the group of challenging tourisms activity (G_{cha}) and the group of relaxing tourism activity (G_{rel}). After reading the stimuli materials, the participants answered two 7-point items (1 = Strongly disagree, 7 = Strongly agree) to measure their opinions of the tourism type described in the stimuli.

Results and discussion

Independent-sample *t*-tests were employed to check the effectiveness of the manipulation. Compared to the G_{rel}, group, the G_{cha} group recorded a significantly higher score when they responded to the first item 'The tourism activity mentioned in the material is a challenging tourism activity' (M_{Gcha} = 6.00, M_{Grel} = 3.62, t = 8.95, $p < 0.01$), while a significantly lower score was found when they responded to the second item 'The tourism activity mentioned in the material is a relaxing tourism activity' (M_{Gcha} = 3.88, M_{Grel} = 6.19, t = −8.11, $p < 0.01$). These results indicated that the respondents were able to distinguish a challenging tourism activity from a relaxing tourism activity in terms of the stimulus provided. Therefore, the stimulus was suitable to be used in the following main experiment.

Main experiment

Research design and procedure

The purpose of study 2 was to examine hypothesis H4 and replicate the results of study 1 with a new sample. It included a survey and five experiments the same as in study 1. The way to approach participants and scales to collect data were also as the same as in study 1. However, three things were different from study 1. Firstly, we randomly divided the people we recruited into two groups before formal study; secondly, the stimuli in study 2 were different from study 1; Lastly, we provided corresponding pictures after the scenario description to help participants imagine the scenario (the pictures are available upon request).

We released the recruitment information on 20 August and recruited 78 individuals willing to engage in study 2. Before the formal study, we randomly divided them into two groups on average: G_{rel} and G_{cha}. The formal study was conducted on 4, 5, 8, 11, 17

Table 4
Procedure of Study 2.

Stage	Key words of stimuli	Label of results
Baseline	No stimulus material was used (G_{rel}) No stimulus material was used (G_{cha})	H_{1st}, E_{1st}
Pre-	I will leave for X seaside resort tomorrow for my five-day vacation (G_{rel}) I will leave for X extreme sports resort tomorrow for my five-day vacation (G_{cha})	H_{2nd}, E_{2nd}
During-	I have been in the tourist X seaside resort for two days (G_{rel}) I have been in the tourist X extreme sports resort for two days (G_{cha})	H_{3rd}, E_{3rd}
$Post_1$-	I have ended my vacation and came back home from X seaside resort last night (G_{rel}) I have ended my vacation and came back home from X extreme sports resort last night (G_{cha})	H_{4th}, E_{4th}
$Post_2$-	It's been a week since I returned from X seaside resort (G_{rel}) It's been a week since I returned from X extreme sports resort (G_{cha})	H_{5th}, E_{5th}
$Post_3$-	It's been a month since I returned from X seaside resort (G_{rel}) It's been a month since I returned from X extreme sports resort (G_{cha})	H_{6th}, E_{6th}

September and 10 October 2019. The key words of stimuli (the details of the stimuli are available upon request) and the labels of measured results of the survey and experiments are shown in Table 4.

There were 4 participants in G_{rel} and 6 in G_{cha} who did not complete all parts of the study. Moreover, 4 participants in G_{rel} and 3 participants in G_{cha} reported they experienced significant events during the study. Excluding these participants, we finally achieved 61 (31 in G_{rel} and 30 in G_{cha}) integrated data sets with a response rate of 78.2%. The details of their demographic information are shown in Table 5.

Scenario authenticity and measurement reliability

The scenario authenticity test showed that more than 95% (95.1%) of the participants affirmed that the situation described in the materials could exist in real life. Both the hedonia and eudaimonia scales expressed high reliability (Cronbach's α of more than 0.850)

Table 5
Sample characteristics.

	N	100%
Age in years		
18–25	13	21.3
26–45	42	68.9
46–65	6	9.8
65 or older	0	0
Occupation		
Worker	1	1.6
Farmer	1	1.6
Public servant	2	3.3
Self-employed	10	16.4
Teacher	5	8.2
Professionals	5	8.2
Enterprise manager	14	23
Student	10	16.4
Others	13	21.3
Monthly income		
Lower than 2000¥	7	11.5
2001–2999¥	9	14.8
3001–4999¥	16	26.2
5000–7999¥	19	31.1
8000¥ or higher	10	16.4
Level of education		
Less than High School	1	1.6
High School/Technical School	3	4.9
Undergraduate/Associate Degree	30	49.2
Master	26	42.6
Doctor or more	1	1.6
Gender		
Male	28	45.9
Female	33	54.1

Table 6
Measurement reliability.

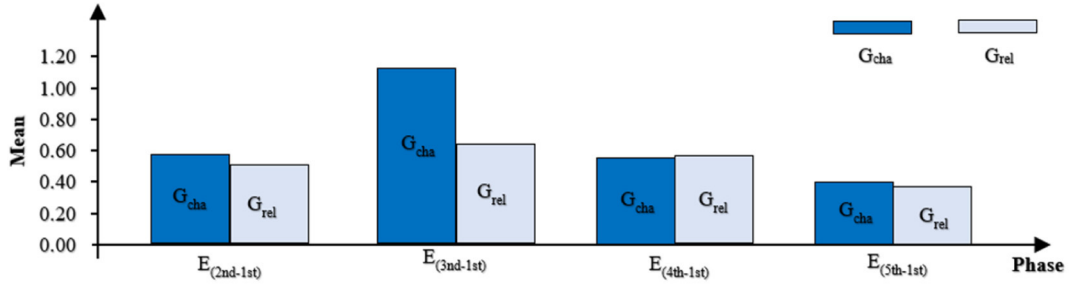
	Baseline	Pre-trip	During-trip	$Post_1$-trip	$Post_2$-trip	$Post_3$-trip
Hedonia	0.931	0.961	0.909	0.918	0.955	0.965
Eudaimonia	0.885	0.903	0.852	0.934	0.945	0.950

in every part of the study. The details of reliability and other measurement information of study 2 are shown in Table 6.

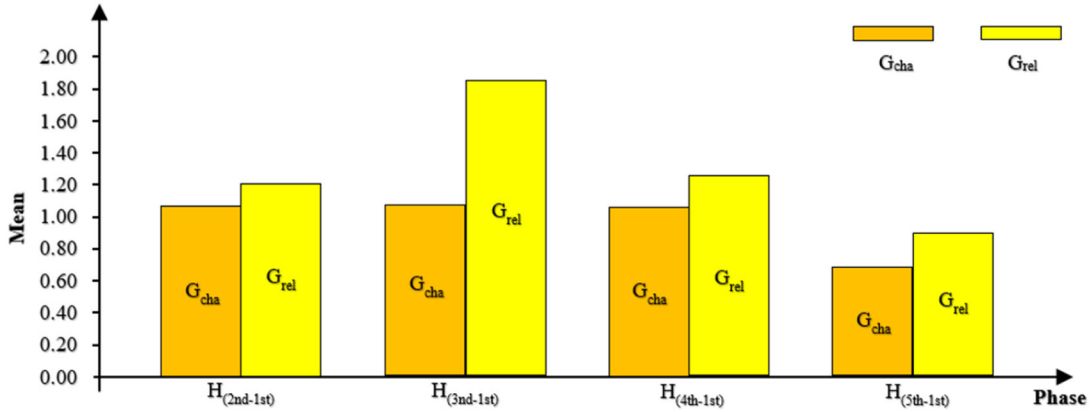
Moderating role of tourism activity type on vacation effect

Employing the method of Independent Samples Test, we examined H4 by comparing the differences in vacation effects for different activities. Following Gilbert & Abdullah (2004), the vacation effect was expressed as the mean subtraction of tourist well-being between different stages and its baseline state. For example, the mean subtraction of tourist eudaimonia between pre-trip and baseline was expressed as $E_{(2nd-1st)}$, and it stands for the vacation effect on tourist eudaimonia at pre-trip. In a similar way, the values of $E_{(3rd-1st)}$, $E_{(4th-1st)}$, $E_{(5th-1st)}$, $H_{(2nd-1st)}$, $H_{(3rd-1st)}$, $H_{(4th-1st)}$ and $H_{(5th-1st)}$ were conducted to represent the vacation effect on eudaimonia and hedonia at different stages.

The results presented a significant difference of eudaimonia between G_{rel} and G_{cha} at the stage of during-trip (EGrel (3rd-1st) = 0.64 vs. EGcha (3rd-1st) = 1.13, $p < 0.05$), that is, compared to its baseline level, the level of eudaimonia achieved from during-trip in the challenging tourism activity (vs. relaxing tourism activity) was significantly higher (Fig. 5a); However, compared to its baseline state, the level of eudaimonia achieved at pre-, $post_1$- and $post_2$-trip in G_{cha} or G_{rel} had no statistical difference (EGrel (2nd-1st) = 0.50 vs. EGcha (2nd-1st) = 0.57, $p > 0.05$; EGrel (4th-1st) = 0.56 vs. EGcha (4th-1st) = 0.55, $p > 0.05$; EGrel (5th-1st) = 0.37 vs. EGcha (5th-1st) = 0.39, $p > 0.05$), therefore hypothesis H4a was partially supported. On the other hand, the results



a. Moderating Effect of Tourism Activity Type on Eudaimonia



b. Moderating Effect of Tourism Activity Type on Hedonia

Fig. 5. a. Moderating effect of tourism activity type on eudaimonia.
b. Moderating effect of tourism activity type on hedonia.

Table 7
Paired samples test on hypothesis of H1, H2 and H3.

Corresponded hypothesis	Paired members	Mean	S. D.	t	N	Sig.
H1	H_{1st} & H_{2nd}	−1.14	1.14	−7.80	61	0.000
	H_{1st} & H_{3rd}	−1.63	1.09	−11.70	61	0.000
	H_{1st} & H_{4th}	−1.15	1.10	−8.18	61	0.000
	H_{1st} & H_{5th}	−0.79	1.09	−5.63	61	0.000
	H_{1st} & H_{6th}	−0.29	1.20	−1.88	61	0.065
	E_{1st} & E_{2nd}	−0.54	0.85	−4.91	61	0.000
	E_{1st} & E_{3rd}	−0.88	0.86	−8.00	61	0.000
	E_{1st} & E_{4th}	−0.56	0.91	−4.76	61	0.000
	E_{1st} & E_{5th}	−0.38	0.96	−3.10	61	0.003
	E_{1st} & E_{6th}	−0.19	0.92	−1.60	61	0.115
H2	H_{2nd} & H_{3rd}	−0.49	0.88	−4.32	61	0.000
	H_{3rd} & H_{4th}	0.47	0.80	4.63	61	0.000
	H_{4th} & H_{5th}	0.37	0.74	3.87	61	0.000
	H_{5th} & H_{6th}	0.50	0.78	5.02	61	0.000
	E_{2nd} & E_{3rd}	−0.34	0.81	−3.34	61	0.001
	E_{3rd} & E_{4th}	0.32	0.87	2.90	61	0.005
	E_{4th} & E_{5th}	0.18	0.68	2.03	61	0.047
	E_{5th} & E_{6th}	0.19	0.66	2.26	61	0.027
H3	$H_{(2nd-1st)}$ & $E_{(2nd-1st)}$	0.60	1.02	4.62	61	0.000
	$H_{(3rd-2nd)}$ & $E_{(3rd-2nd)}$	0.25	0.88	2.26	61	0.028
	$H_{(3rd-4th)}$ & $E_{(3rd-4th)}$	0.26	0.88	2.29	61	0.026
	$H_{(4th–5th)}$ & $E_{(4th–5th)}$	0.19	0.73	2.04	61	0.046
	$H_{(5th–6th)}$ & $E_{(5th–6th)}$	0.28	0.75	2.89	61	0.005

showed non-significant differences of hedonia in G_{rel} and G_{cha} (Fig. 5b). More specifically, compared to its baseline state, the level of hedonia achieved at pre-, during-, $post_1$- and $post_2$-trip in G_{rel} or G_{cha} had no statistical difference (HGrel (2nd-1st) = 1.20 vs. HGcha (2nd-1st) = 1.07, $p > 0.05$; HGrel (3rd-1st) = 1.85 vs. HGcha (3rd-1st) = 1.40, $p > 0.05$; HGrel (4th-1st) = 1.25 vs. HGcha (4th-1st) = 1.05, $p > 0.05$; HGrel (5th-1st) = 0.89 vs. HGcha (5th-1st) = 0.68, $p > 0.05$). Thus, hypotheses H4b was not supported. Although hypotheses H4a and H4b were not examined totally, we actually found that eudaimonia achieved in challenging (vs. relaxing) activity was more at during-trip, but hedonia achieved in challenging or relaxing activity had no significant difference at any stage, indicating another kind of difference in change patterns between eudaimonia and hedonia.

Replication of the results of study 1 with a new situation

In study 1, the participants were free to imagine any type of tourism activity, but in study 2 we provided the participants with a specific tourism activity (relaxing or challenging), allowing us to examine whether the hypotheses of H1, H2, and H3 could be replicated in a relative specific situation and in a new sample. The processes of examining these hypotheses were the same as in study 1 which employed the Paired Samples Test method. As we expected, H1, H2, and H3 were replicated in the study 2 (see Table 7).

Conclusions and implications

Conclusions

In this research we used two studies to address the question of 'how tourist well-being changes over the course of a vacation'. The results suggested that it is important to consider the two dimensions of well-being simultaneously, as hedonia and eudaimonia show significant changes and present a 'first rise then fall' change tendency. More interestingly, findings demonstrated the delayed effect of eudaimonia, that is, compared to hedonia, eudaimonia has a lower change intensity over the course of a vacation. And the findings also revealed the activity preference of eudaimonia, i.e. eudaimonia achieved in challenging (vs. relaxing) activity is higher.

Theoretical contribution

Well-being includes two dimensions: hedonia and eudaimonia (Ryan & Deci, 2001). Much attention has been paid to hedonia (Lengieza et al., 2019; Smith & Diekmann, 2017), yet eudaimonia has been neglected for a long time, not to mention the change patterns of tourist well-being included eudaimonia and hedonia at the same time. On the other hand, the effects of different types of tourism activity on tourist well-being have been considered differently (Smith & Diekmann, 2017), but relevant existing studies have not distinguished different types of tourism activity empirically (Smith & Diekmann, 2017). As such, a deeper study considering the eudaimonic dimension of tourist well-being and the role of tourism activity type was needed. Therefore, considering these factors and through the lens of well-being theory, self-determination theory, and set-point theory, this research enriches knowledge of change tendency of 'first rise then fall', delayed effect of eudaimonia, and activity preference effect of eudaimonia to understand the change patterns of tourist well-being deeply, and extends theoretical literature regarding well-being in tourism contexts.

Previous studies (e.g. Chen et al., 2013; De Bloom et al., 2010; De Bloom et al., 2011; Gilbert & Abdullah, 2004; Nawijn, 2010;

Nawijn et al., 2010; Sie et al., 2018) have only considered the hedonic dimension of well-being with the theoretical framework of hedonia, such as 'subjective well-being', which would inevitably lead to the neglect of eudaimonic factors in tourism, and then the failure to understand the effect of vacation on tourist well-being comprehensively. The current research, however, adopting the lens of self-determination theory and incorporating eudaimonia into the framework of tourist well-being indicated that not only tourist hedonia but also tourist eudaimonia increases from baseline situation at pre-trip, during-trip, $post_1$-trip and $post_2$-trip and returns to baseline situation at $post_3$-trip. Moreover, both hedonia and eudaimonia presented a change tendency of 'first rise then fall'. These findings examined the applicability of self-determination theory, which extended the theoretical foundation in this research topic, and refreshed the knowledge about how tourist well-being changes over the course of a vacation, contributing especially to the knowledge about how tourist eudaimonia changes over the course of a vacation.

Additionally, as we considered the change of tourist well-being including hedonia and eudaimonia, we were able to compare the differences in change patterns between hedonia and eudaimonia, and then contribute to the knowledge of relative change between them over the course of a vacation. Previous studies (e.g. Chen et al., 2013; De Bloom et al., 2010; De Bloom et al., 2011; Gilbert & Abdullah, 2004; Nawijn et al., 2010; Strauss-Blasche et al., 2000), have only considered the hedonic dimension of well-being, the comparison of hedonia and eudaimonia was not conducted, there was little knowledge to date about the relative change between hedonia and eudaimonia throughout a vacation. The current study reveals the similarity of vacation effect and change tendency between eudaimonia and hedonia throughout a vacation, and identified the differences in change intensity between eudaimonia and hedonia, that is, tourist eudaimonia has lower change intensity compared to hedonia. Therefore, with the comparative perspective, we provided evidence to the argument that hedonia and eudaimonia are both overlapping and distinct (Ryan & Deci, 2001) in the tourism context. More interestingly, our findings indicated the delayed effect of eudaimonia compared to hedonia, which provided a deeper understanding of the relationships between hedonia and eudaimonia over the course of a vacation.

Furthermore, previous studies (e.g. Chen et al., 2013; Gilbert & Abdullah, 2004) have mostly not distinguished the type of tourism activity, or just focused on one specific activity type (e.g. De Bloom et al., 2010; De Bloom et al., 2011), thus ignoring the potentially different effects on tourist well-being elicited by different activities (Su et al., 2020). The current study distinguished two specific kinds of activities (challenging vs. relaxing) and examined their effect on tourist hedonia and eudaimonia, this contributed to filling the gap concerning the role of tourism activity types on tourist well-being. Although we only partially confirmed hypothesis 4, we provided the empirical evidence in a tourism context that eudaimonia has a type of activity preference: it saw more changes in challenging (vs. relaxing) activity. These findings help us better comprehend the role of activity type in the change of tourist well-being throughout a vacation and extend the literature regarding how tourist well-being changes in different tourism contexts over the course of a vacation.

Practical implications

The findings from this research indicated that it is important to consider the two dimensions of well-being simultaneously. Individuals should consider associating tourism vacations with personal growth, self-actualization and even meaning in life, rather than just with pleasure, which requires them to consider more eudaimonic factors over the course of a vacation. For example, they should develop more detailed travel strategies before a vacation to enhance the sense of environmental mastery throughout their vacation, or they should get involved with the welfare of others, help other tourists or local residents to conduct positive relationships with others. Policymakers should consider the use of tourism vacation to help people grow, especially the low-income groups who have lower levels of eudaimonia than the general population (McCabe & Johnson, 2013). For instance, policymakers should establish a set of new social tourism programs or expand current ones. Regarding tourism managers, they should use the eudaimonic approach as a useful tool to enhance tourist well-being. For example, they should provide more opportunities for tourists to interact, in which tourists would be able to show themselves to others, identify their strengths, and build more relationships which eventually leads to eudaimonia. Furthermore, managers should adopt different strategies (hedonic and/or eudaimonic) for different market segments, they should also include storylines and images reflective of eudaimonia in their advertisement to attract the relevant holidaymakers.

In addition, our findings indicated that tourism activity type may be a key factor in achieving higher eudaimonia throughout a vacation, as we proved that eudaimonia achieved by tourists in challenging (vs. relaxing) activity is higher. For tourists, if they want to achieve more in terms of self-growth, self-actualization and even meaning of life, they could consider choosing a challenging tourism activity (e.g. skydiving, skiing and whitewater rafting). On the other hand, as tourist are increasingly hoping to obtain something meaningful through a vacation (Filep & Deery, 2010; Lengieza et al., 2019), tourism managers are encouraged to offer more challenging activities which need more efforts, and even with a high risk to attract those tourists pursuing eudaimonia.

Research limitations and future research directions

Although the potential contributions of the results to literature are significant, as discussed above, some limitations - representing directions for future research - exist. First, the participants that engaged in studies 1 and 2 are mainland Chinese, which may hamper the external validity of the current study. Future studies can utilize samples from different countries to enhance the external validity of the current study. Additionally, because of our focus was more on the changes of tourist well-being after the vacation, it may lack a more detailed examination at the stages of pre- and during-vacation. Future studies could consider dividing these two stages into more detailed ones, which are capable of detecting change patterns in tourist well-being more precisely. Furthermore, our study created and tested an integrated theoretical model for tourist well-being effects in the short run. Recently, a long-term effects model for hedonia was proposed and tested by Mitas & Kroesen (2019), based on broaden-and-build theory (Fredrickson, 2004). A

combination of both models would allow future researchers to test how the stages as identified and tested in this study would potentially have long-term effects. Finally, considering the model by Mitas & Kroesen (2019) was a single-theory hedonic model, it would be especially useful if eudaimonia was included in the overall model via self-determination theory (Ryan & Deci, 2000) and if the testing included tourism activities that, according to broaden-and-build theory, should be beneficial to tourist well-being. Potential candidates are mindfulness activities (Pearce, 2009) and nature-based activities (Mehmetoglu, 2007).

Acknowledgements

This research was supported by the National Natural Science Foundation of China (Nos. 71774176; 71573279; 71974206), and National Science Foundation for Distinguished Young Scholars of Hunan Province (No. 2017JJ1032).

References

Bastiaansen, M., Lub, X. D., Mitas, O., Jung, T. H., Ascençao, M. P., Han, D. I., & Strijbosch, W. (2019). Emotions as core building blocks of an experience. *International Journal of Contemporary Hospitality Management, 31*(2), 651–668.
Beckman, E., Whaley, J. E., & Kim, Y. K. (2017). Motivations and experiences of whitewater rafting tourists on the Ocoee River, USA. *International Journal of Tourism Research, 19*(2), 257–267.
Cai, Y., Ma, J., & Lee, Y.-S. (2020). How do Chinese travelers experience the Arctic? Insights from a hedonic and eudaimonic perspective. *Scandinavian Journal of Hospitality and Tourism, 20*(2), 144–165.
Chen, C. C., & Petrick, J. F. (2013). Health and wellness benefits of travel experiences: A literature review. *Journal of Travel Research, 52*(6), 709–719.
Chen, C.-C., & Yoon, S. (2019). Tourism as a pathway to the good life: Comparing the top–down and bottom–up effects. *Journal of Travel Research, 58*(5), 866–876.
Chen, Y., Lehto, X. Y., & Cai, L. (2013). Vacation and well-being: A study of Chinese tourists. *Annals of Tourism Research, 42*, 284–310.
De Bloom, J., Geurts, S. A. E., Sonnentag, S., Taris, T., Weerth, C.d., & Kompier, M. A. J. (2011). How does a vacation from work affect employee health and well-being? *Psychology & Health, 26*(12), 1606–1622.
De Bloom, J., Geurts, S. A. E., Taris, T., Sonnentag, S., Weerth, C.d., & Kompier, M. A. J. (2010). Effects of vacation from work on health and well-being: Lots of fun, quickly gone. *Work & Stress, 24*(2), 196–216.
Diener, E. (1994). Assessing subjective well-being: Progress and opportunities. *Social Indicators Research, 31*, 103–157.
Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71–75.
Fennell, D. A. (2009). The nature of pleasure in pleasure travel. *Tourism Recreation Research, 34*(2), 123–134.
Filep, S. (2014). Moving beyond subjective well-being: A tourism critique. *Journal of Hospitality & Tourism Research, 38*(2), 266–274.
Filep, S., & Deery, M. (2010). Towards a picture of tourists' happiness. *Tourism Analysis, 15*(4), 399–410.
Filep, S., & Laing, S. J. (2019). Trends and directions in tourism and positive psychology. *Journal of Travel Research, 58*(3), 343–354.
Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences, 359*(1449), 1367–1377.
Gao, J., Kerstetter, D. L., Mowen, A. J., & Hickerson, B. (2018). Changes in tourists' perception of well-being based on their use of emotion regulation strategies during vacation. *Journal of Travel & Tourism Marketing, 35*(5), 567–582.
Gilbert, D., & Abdullah, J. (2004). Holidaytaking and the sense of well-being. *Annals of Tourism Research, 31*(1), 103–121.
Hanna, P., Wijesinghe, S., Paliatsos, I., Walker, C., Adams, M., & Kimbu, A. (2019). Active engagement with nature: Outdoor adventure tourism, sustainability and wellbeing. *Journal of Sustainable Tourism, 27*(9), 1355–1373.
Henderson, L. W., & Knight, T. (2012). Integrating the hedonic and eudaimonic perspectives to more comprehensively understand wellbeing and pathways to wellbeing. *International Journal of Wellbeing, 2*(3), 196–221.
Holm, M. R., Lugosi, P., Croes, R. R., & Torres, E. N. (2017). Risk-tourism, risk-taking and subjective well-being: A review and synthesis. *Tourism Management, 63*, 115–122.
Hoopes, L. L., & Lounsbury, J. W. (1989). An investigation of life satisfaction following a vacation: A domain-specific approach. *Journal of Community Psychology, 17*, 129–140.
Kammann, R., & Flett, R. (1983). Affectometer 2: A scale to measure current level of general happiness. *Australian Journal of Psychology, 35*(2), 259–265.
Kaosiri, Y. N., Fiol, L. J. C., Tena, M.Á. M., Artola, R. M. R., & García, J. S. (2019). User-generated content sources in social media: A new approach to explore tourist satisfaction. *Journal of Travel Research, 58*(2), 253–265.
Knobloch, U., Robertson, K., & Aitken, R. (2017). Experience, emotion, and eudaimonia: A consideration of tourist experiences and well-being. *Journal of Travel Research, 56*(5), 651–662.
Lazarus, R. S. (1982). Thoughts on the relations between emotion and cognition. *American Psychologist, 37*(9), 1019–1024.
Lengieza, M. L., Hunt, C. A., & Swim, J. K. (2019). Measuring eudaimonic travel experiences. *Annals of Tourism Research, 74*, 195–197.
Li, T. E., & Chan, E. T. H. (2017). Diaspora tourism and well-being: A eudaimonic view. *Annals of Tourism Research, 63*, 205–206.
Liao, H. (2007). Do it right this time: The role of employee service recovery performance in customer-perceived justice and customer loyalty after service failures. *Journal of Applied Psychology, 92*(2), 475–489.
London, M., Crandall, R., & Seals, G. W. (1997). The contribution of job and leisure satisfaction to quality of life. *Journal of Applied Psychology, 62*(3), 328–334.
Lounsbury, J. W., & Hoopes, L. L. (1986). A vacation from work: Changes in work and nonwork outcomes. *Journal of Applied Psychology, 71*(3), 392–401.
Lyubomirsky, S., & Layous, K. (2013). How do simple positive activities increase well- being? *Current Directions in Psychological Science, 22*, 57–62.
McCabe, S., & Johnson, S. (2013). The happiness factor in tourism: Subjective well-being and social tourism. *Annals of Tourism Research, 41*, 42–65.
McCabe, S., Joldersma, T., & Li, C. (2010). Understanding the benefits of social tourism: Linking participation to subjective well-being and quality of life. *International Journal of Tourism Research, 12*, 761–773.
Mehmetoglu, M. (2007). Typologising nature-based tourists by activity—Theoretical and practical implications. *Tourism Management, 28*(3), 651–660.
Milman, A. (1998). The impact of tourism and travel experience on senior travelers' psychological well-being. *Journal of Travel Research, 37*(2), 166–170.
Mitas, O., & Kroesen, M. (2019). Vacations over the years: A cross-lagged panel analysis of tourism experiences and subjective well-being in the Netherlands. *Journal of Happiness Studies*. https://doi.org/10.1007/s10902-019-00200-z online ahead of print.
Mitas, O., Nawijn, J., & Jongsma, B. (2016). Between tourists: Tourism and happiness. In M. K. Smith, & L. Puczkó (Eds.). *Routledge handbook of health tourism* (pp. 47–64). London: Routledge.
Mitas, O., Yarnal, C., Adams, R., & Ram, N. (2012). Taking a "peak" at leisure travelers' positive emotions. *Leisure Sciences, 34*(2), 115–135.
Nawijn, J. (2010). The holiday happiness curve: A preliminary investigation into mood during a holiday abroad. *International Journal of Tourism Research, 12*(3), 281–290.
Nawijn, J., & Filep, S. (2016). Two directions for future tourist well-being research. *Annals of Tourism Research, 61*, 221–223.
Nawijn, J., Marchand, M. A., Veenhoven, R., & Vingerhoets, A. J. (2010). Vacationers happier, but most not happier after a holiday. *Applied Research in Quality of Life, 5*, 35–47.
Pearce, P. L. (2009). The relationship between positive psychology and tourist behaviour studies. *Tourism Analysis, 14*(1), 37–48.
Pols, J., & Kroon, H. (2007). The importance of holiday trips for people with chronic mental health problems. *Psychiatric Services, 58*(2), 262–265.

Pyke, J., Pyke, S., & Watuwa, R. (2019). Social tourism and well-being in a first nation community. *Annals of Tourism Research, 77*, 38–48.
Rahmani, K., Gnoth, J., & Mather, K. (2018). Hedonic and eudaimonic well-being: A psycholinguistic view. *Tourism Management, 69*, 155–166.
Rook, J. W., & Zijlstra, F. R. (2006). The contribution of various types of activities to recovery. *European Journal of Work and Organizational Psychology, 15*(2), 218–240.
Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68–78.
Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*, 141–166.
Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*(6), 1069–1081.
Ryff, C. D. (2014). Psychological well-being revisited: Advances in the science and practice of eudaimonia. *Psychotherapy and Psychosomatics, 83*(1), 10–28.
Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*(4), 719–727.
Ryff, C. D., & Singer, B. (1998). The contours of positive human health. *Psychological Inquiry, 9*(1), 1–28.
Sie, L., Phelan, K. V., & Pegg, S. (2018). The interrelationships between self-determined motivations, memorable experiences and overall satisfaction: A case of older Australian educational tourists. *Journal of Hospitality and Tourism Technology, 9*(3), 354–379.
Sirgy, M. J. (2019). Promoting quality-of-life and well-being research in hospitality and tourism. *Journal of Travel & Tourism Marketing, 36*(1), 1–13.
Smith, M. K., & Diekmann, A. (2017). Tourism and wellbeing. *Annals of Tourism Research, 66*, 1–13.
Sonnentag, S. (2001). Work, recovery activities, and individual well-being: A diary study. *Journal of Occupational Health Psychology, 6*(3), 196–210.
Strauss-Blasche, G., Ekmekcioglu, C., & Marktl, W. (2000). Does vacation enable recuperation? Changes in well-being associated with time away from work. *Occupational Medicine, 50*(3), 167–172.
Su, L., Cheng, J., & Swanson, S. R. (2020). The impact of tourism activity type on emotion and storytelling: The moderating roles of travel companion presence and relative ability. *Tourism Management, 81*. https://doi.org/10.1016/j.tourman.2020.104138.
Su, L., Swanson, S. R., & Chen, X. (2016). The effects of perceived service quality on repurchase intentions and subjective well-being of Chinese tourists: The mediating role of relationship quality. *Tourism Management, 52*, 82–95.
Su, X., & Zhang, H. (2020). Tea drinking and the tastescapes of wellbeing in tourism. *Tourism Geographies*. https://doi.org/10.1080/14616688.2020.1750685 press.
Uysal, M., Sirgy, M. J., Woo, E., & Kim, H. (2016). Quality of life (QOL) and well-being research in tourism. *Tourism Management, 53*, 244–261.
Wu, C. H. J., & Liang, R. D. (2011). The relationship between white-water rafting experience formation and customer reaction: A flow theory perspective. *Tourism Management, 32*(2), 317–325.
Yu, J., Li, H., & Xiao, H. (2020). Are authentic tourists happier? Examining structural relationships amongst perceived cultural distance, existential authenticity, and wellbeing. *International Journal of Tourism Research, 22*(1), 144–154.

Lujun Su is a professor of marketing in the School of Business at the Central South University, China. He has published 80 referred articles in scholarly journals.

Binli Tang is a PhD Candidate in the School of Business at the Central South University, China. His research interests focus on happiness and flourishing in tourism, and tourist behavior.

Jeroen Nawijn is a senior lecturer at Breda University of Applied Sciences in the Netherlands.